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Program Executive Officer
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DD 21

Modeling and Simulation Vision

(Smart Product Model)

Briefing to:

***Defense Modeling and
Simulation Office (DMSO)
Industry Days***

REPORT DOCUMENTATION PAGE

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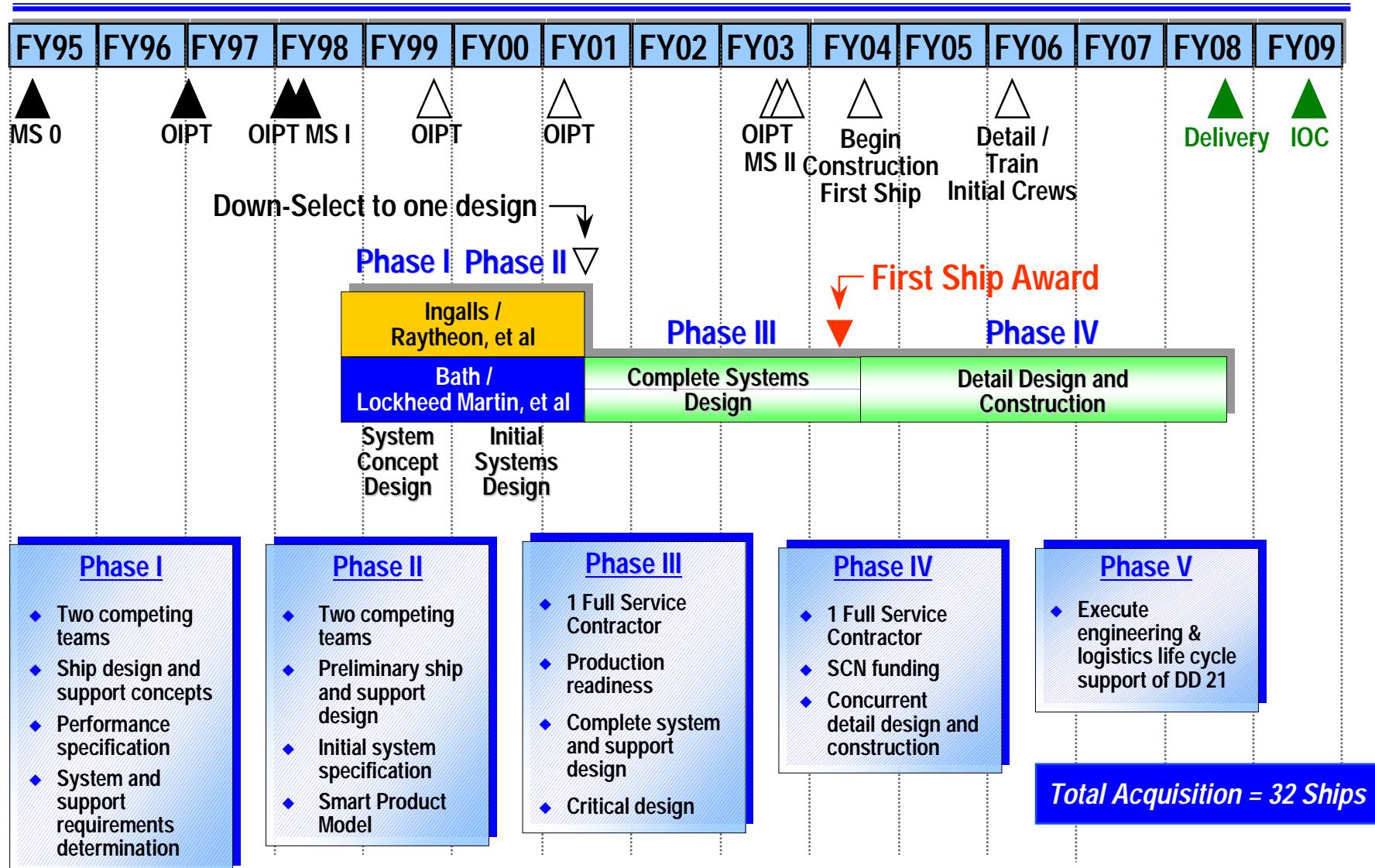
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Outline

- ◆ **DD 21 Program Overview**
- ◆ **M&S Vision / Smart Product Model**

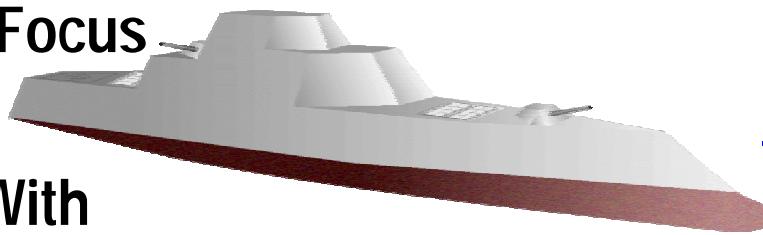
DD 21 Acquisition Schedule



What's DD 21?

Multi-Mission Surface Combatant

- Designed for the Littorals
- Land Attack Focus
- Maritime Dominance With In-stride Mine Avoidance
- Joint Interoperable
- Bound by Cost



Advanced Technology

- Ship Design
- Full Spectrum Signature Reduction
- Integrated Apertures
- Total Ship Computing
- Network-Centric
- Sensors & Weapons
- Revolutionary Manning

The Navy's Premier Next Generation Surface Combatant

Revolutionary Acquisition for Warships

Government

- ◆ Program leader
- ◆ Requirements provider
- ◆ Systems certifier
- ◆ Tactical trainer
- ◆ No mandated GFE

Industry

- ◆ *Provide system concepts and all performance specifications*
- ◆ *Perform engineering developments*
- ◆ *Acquire systems the most affordable way*
- ◆ *Execute Cost as an Independent Variable (CAIV)*
- ◆ *Plan, design, build and execute logistics support for entire life cycle*

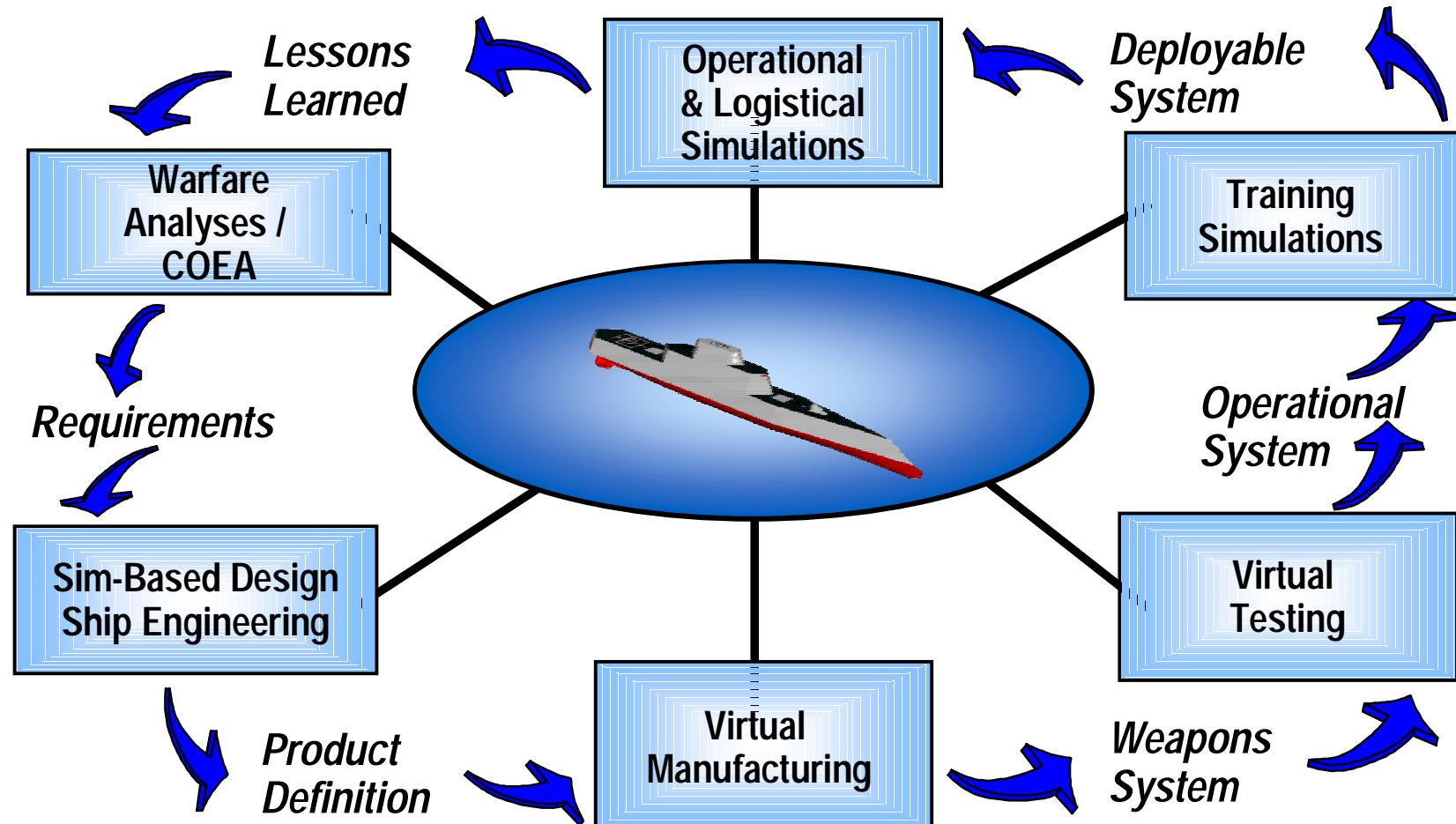
Partners for Success

Outline

- ◆ DD 21 Program Overview

- ◆ M&S Vision / Smart Product Model

M&S Vision



Vision: Conceive, Design, Build, Test, Train, and Operate a Weapons System in a Computer Before Cutting Metal

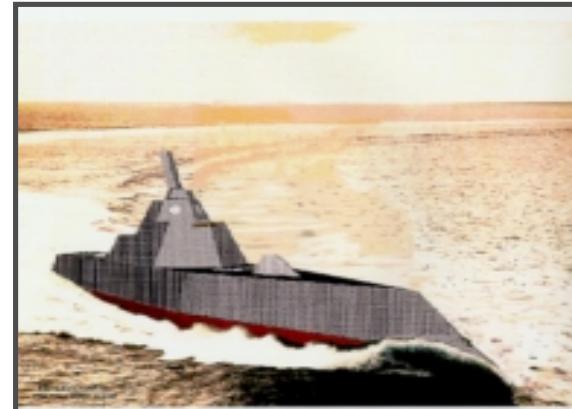
Smart Product Model (SPM)

- ◆ Is virtual prototype for concept evaluation
 - Key enabler of Other Transaction Authority acquisition
- ◆ Is a digital version of the ship system
 - Contains performance and behavior characteristics
- ◆ Will achieve the vision
 - Conceive, design, build, test, train, and operate a weapons system in a computer before cutting metal and through the life cycle
- ◆ Supports M&S needs through the life cycle
 - Will reduce total operating cost and cycle time

Partnering with Industry

Industry

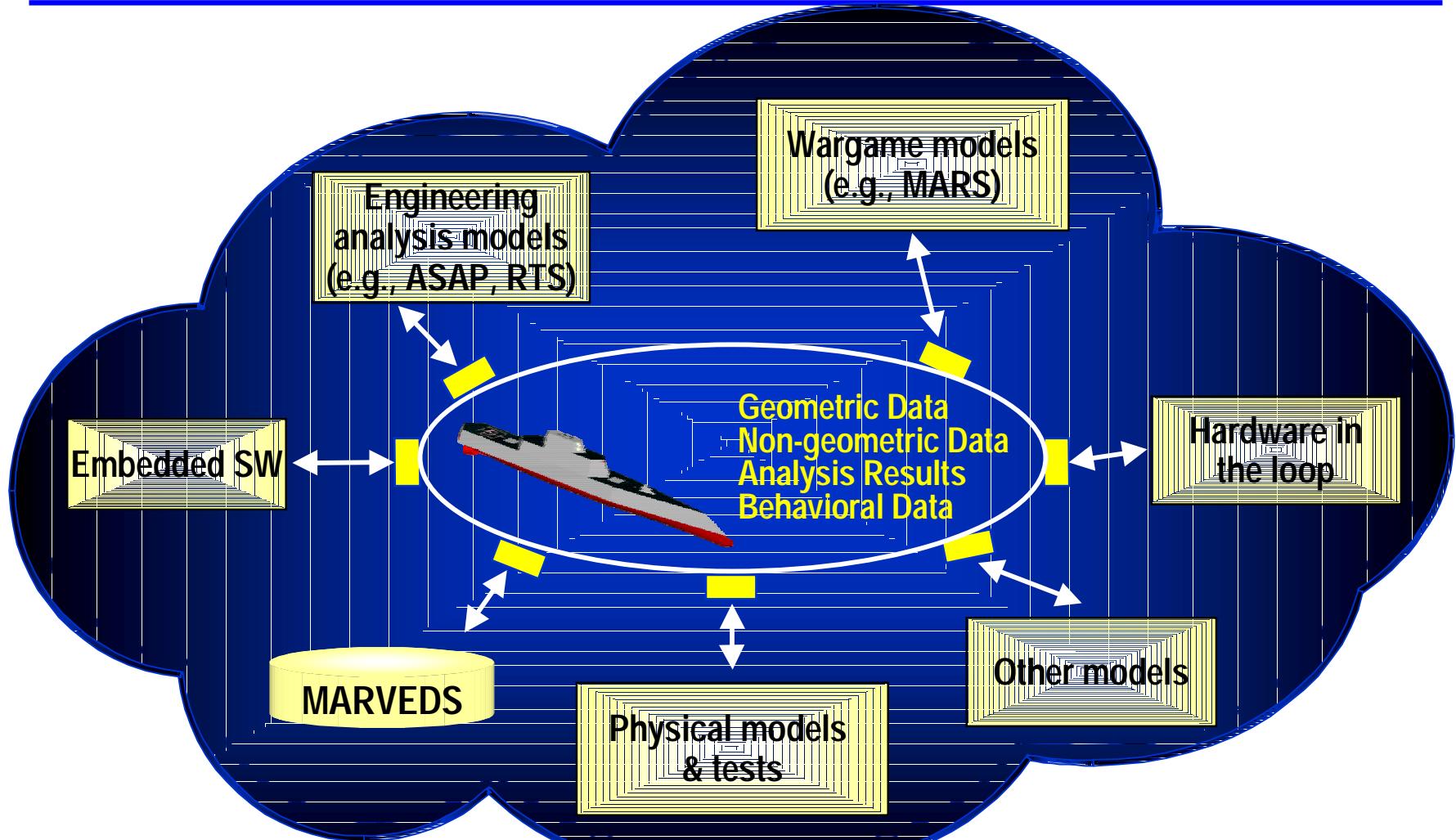
- ◆ Determine M&S needs / benefits
- ◆ Design DD 21 M&S system
- ◆ Develop new M&S
- ◆ Reuse existing legacy models
- ◆ Leverage concurrent M&S projects
- ◆ Ensure interoperability
- ◆ Verification & Validation



PMS500

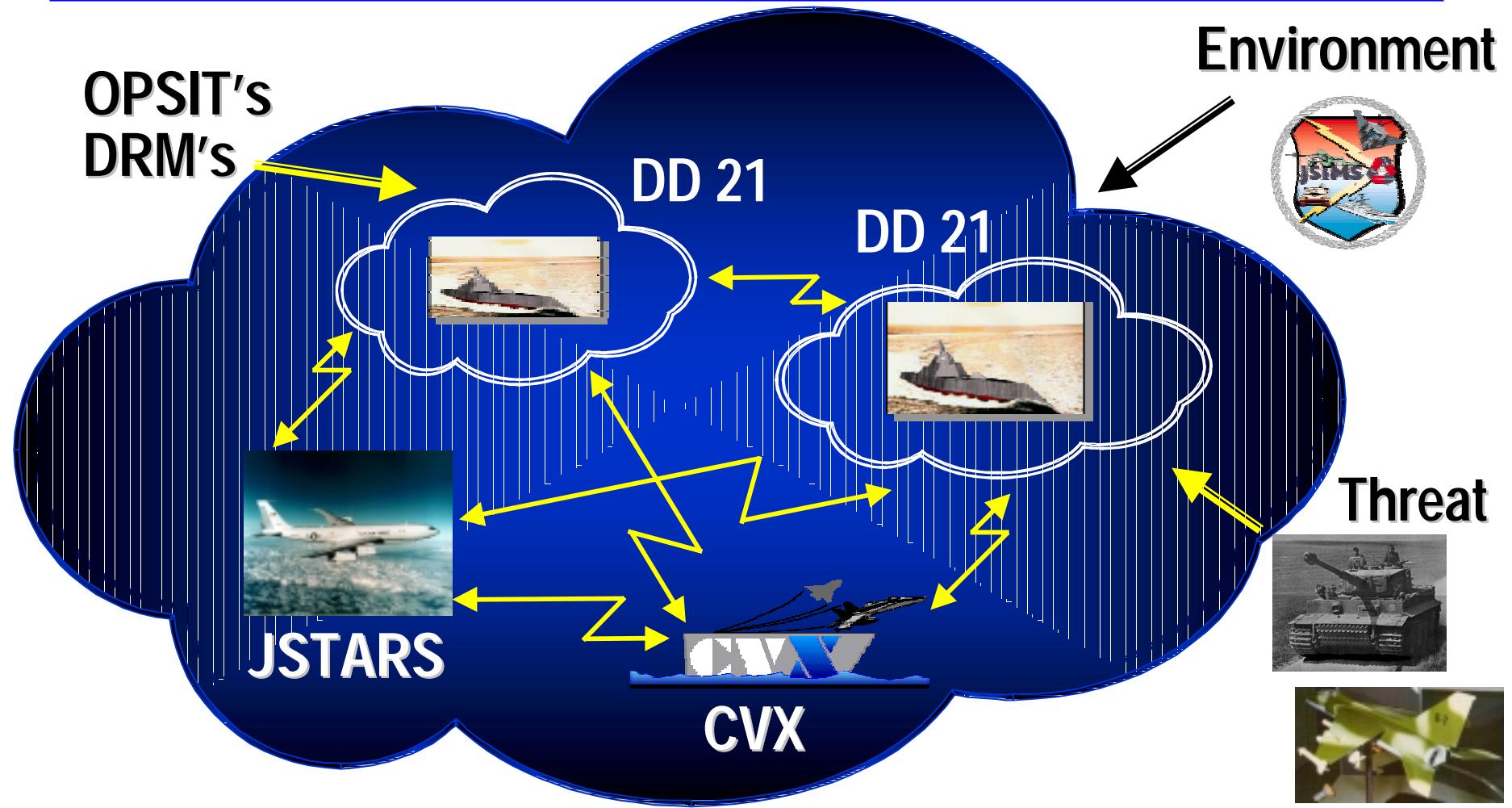
- ◆ Industry insight / interaction
- ◆ Accreditation of models
- ◆ Proposal evaluation
- ◆ Facilitate reuse of existing models

SPM M&S Environment



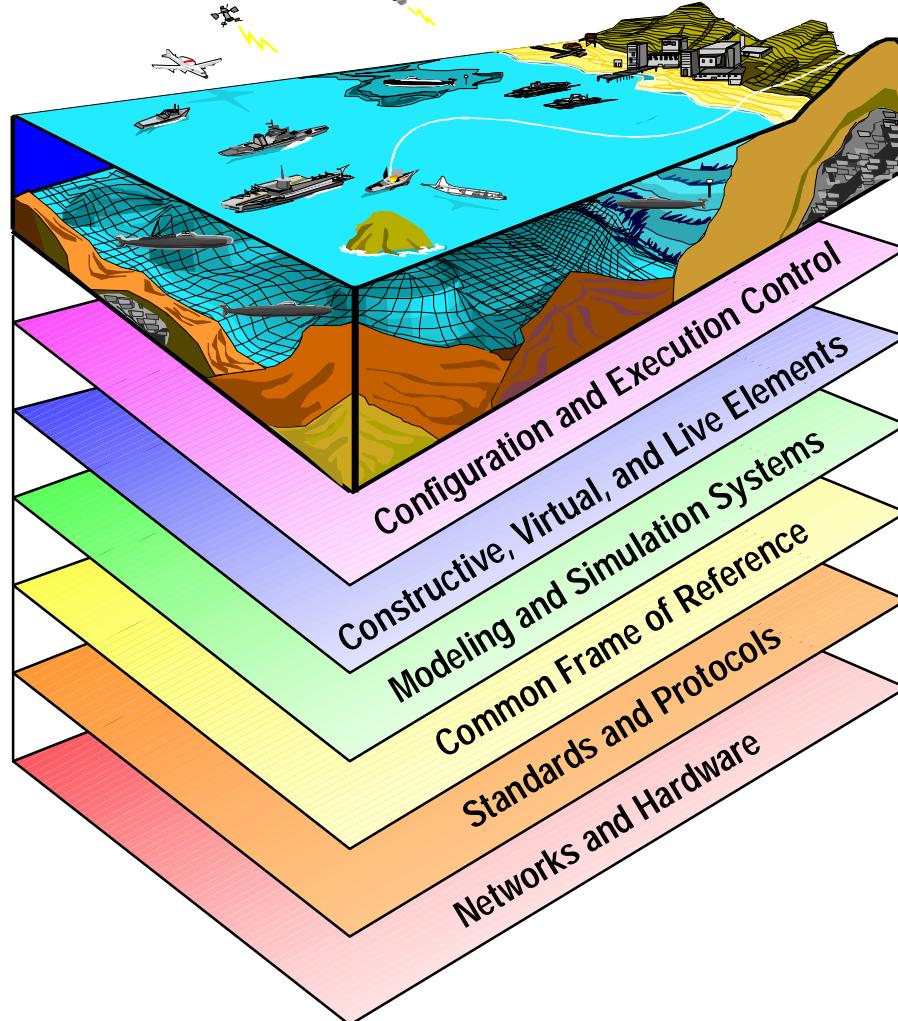
Integration / Interoperability

Joint Synthetic Battlespace



Interoperability Is Critical

Virtual Prototype Operations in the Synthetic Battlespace



Vision Is Built on Standards

The SPM Challenge

System representation of the complexity anticipated for DD 21 has not been accomplished before. We're looking to Industry to deliver an innovative solution.